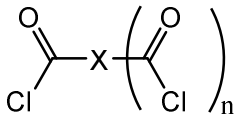
CLAIMS

1. A polyamide core-shell microcapsule comprising:

- an oil-based core comprising a hydrophobic material, preferably a perfume, and
- a polyamide shell comprising:
    - at least one acyl chloride,
    - at least one amino compound,

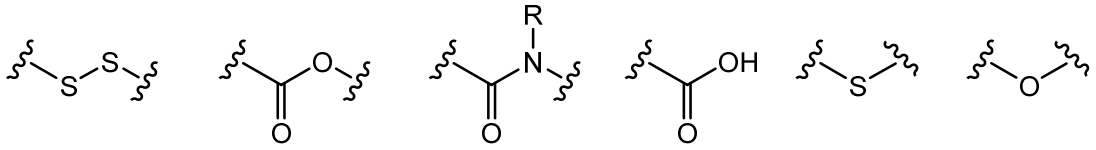
wherein the acyl chloride has the following formula (I)



(I)

wherein n is an integer varying between 1 and 8, preferably between 1 and 6, more preferably between 1 and 4, and

wherein X is either an (n+1)-valent C_3 to C_6 alkyl group, or an (n+1)-valent C_2 to C_{45} hydrocarbon group comprising at least one group selected from (i) to (vi),



(i) (ii) (iii) (iv) (v) (vi)

wherein R is a hydrogen atom or a methyl or ethyl group, preferably a hydrogen atom,

with the proviso that cyclohexane-1,3,5-tricarbonyl trichloride and 2,2'-oxydiacetyl chloride are excluded; and

wherein the amino compound comprises an amino acid.

2- The microcapsule according to claim 1, wherein the acyl chloride is chosen from the group consisting of propane-1,2,3-tricarbonyl trichloride, cyclohexane-1,2,4,5-tetracarbonyl tetrachloride, 2,2'-disulfanediyldisuccinyl dichloride, 2-(2-chloro-2-oxo-

ethyl)sulfanylbutanedioyl dichloride, (4-chloro-4-oxobutanoyl)-L-glutamoyl dichloride, (S)-4-((1,5-dichloro-1,5-dioxopentan-2-yl)amino)-4-oxobutanoic acid, 2,2-bis[(4-chloro-4-oxo-butanoyl)oxymethyl]butyl 4-chloro-4-oxo-butanoate, [2-[2,2-bis[(4-chloro-4-oxo-butanoyl)oxymethyl]butoxymethyl]-2-[(4-chloro-4-oxo-butanoyl)oxymethyl]butyl] 4-chloro-4-oxo-butanoate, 2,2-bis[(2-chlorocarbonylbenzoyl)oxymethyl]butyl 2-chlorocarbonyl-benzoate, [2-[2,2-bis[(2-chlorocarbonylbenzoyl)oxymethyl]butoxymethyl]-2-[(2-chlorocarbonylbenzoyl)oxymethyl]butyl] 2-chlorocarbonylbenzoate, 4-(2,4,5-trichlorocarbonylbenzoyl)oxybutyl 2,4,5-trichlorocarbonyl-benzoate, and mixtures thereof.

3- The microcapsule according to claim 1 or 2, wherein the amino-compound is chosen from the group consisting of L-Lysine, L-Arginine, L-Histidine, L-Tryptophane, L-Serin, L-Glutamine, L-Threonine and mixtures thereof.

4- The microcapsule according to any one of the preceding claims, wherein the shell comprises a first amino-compound and a second amino-compound.

5- The microcapsule according to claim 4, wherein the first amino-compound is chosen from the group consisting of L-Lysine, L-Arginine, L-Histidine, L-Tryptophane, L-Serin, L-Glutamine, and mixtures thereof.

6- The microcapsule according to claim 4, wherein the second amino-compound is chosen from the group consisting of xylylene diamine, 1,2-diaminocyclohexane, 1,4-diaminocyclohexane, L-lysine, L-Lysine ethyl ester, polyetheramines (Jeffamine®), ethylene diamine, diethylene triamine, spermine, spermidine, polyamidoamine (PAMAM), guanidine carbonate, chitosan, tris-(2-aminoethyl)amine, 3-aminopropyltriethoxysilane, L-arginine, an amine having a disulfide bond such as cystamine, cystamine hydrochloride, cystine, cystine hydrochloride, cystine dialkyl ester, cystine dialkyl ester hydrochloride and mixtures thereof.

7- The microcapsule according to any one of the preceding claims, wherein the weight ratio between acyl chloride and the hydrophobic material is comprised between 0.01 and 0.2.

8- The microcapsule according to any one of the preceding claims, wherein the molar ratio between the functional group NH_2 of the amino compound and the functional group COCl of the acyl chloride is comprised between 0.01 and 50.

9- The microcapsule according to any one of the preceding claims, wherein the microcapsule comprises an outer cationic coating.

10- A process for preparing a core-shell polyamide microcapsule slurry comprising the following steps:

a) Dissolving at least one acyl chloride in a hydrophobic material, preferably a perfume to form an oil phase;

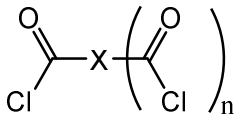
b) Dispersing the oil phase obtained in step a) into a water phase to obtain an oil-in-water emulsion;

c) Performing a curing step to form polyamide microcapsules in the form of a slurry;

wherein a stabilizer is added to the oil phase and/or to the water phase, and

wherein at least one amino-compound is added to the water phase before the formation of the oil-in-water emulsion and/or in the oil-in water emulsion obtained after step b)

wherein the acyl chloride has the following formula (I)



(I)

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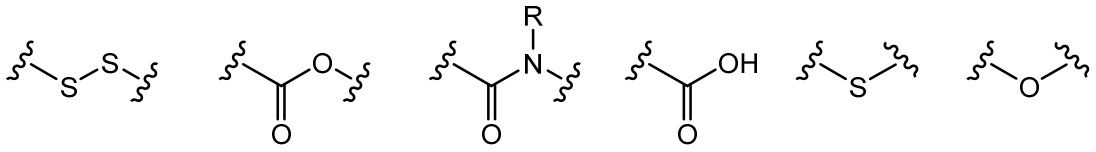

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with the proviso that cyclohexane-1,3,5-tricarbonyl trichloride and 2,2'-oxydiacetyl chloride are excluded, and

wherein the amino compound comprises an amino acid.

11- The process according to claim 10, wherein a first amino compound is added to the water phase and wherein a second amino compound is added to the oil-in-water emulsion.

12- The process according to any one of claims 10 or 11, wherein the stabilizer is chosen from the group consisting of gum Arabic, modified starch, polyvinyl alcohol, polyvinylpyrolidone (PVP), carboxymethylcellulose (CMC), anionic polysaccharides, acrylamide copolymer, inorganic particles, protein such as soy protein, rice protein, whey protein, white egg albumin, sodium caseinate, gelatin, bovine serum albumin, hydrolyzed soy protein, hydrolyzed sericin, pseudocollagen, silk protein, sericin powder, and mixtures thereof.

13- A perfuming composition comprising

(i) Perfume microcapsule as defined in claims 1-9, wherein the hydrophobic material comprises a perfume,

(ii) At least one ingredient selected from the group consisting of a perfumery carrier and a perfumery base

(iii) Optionally at least one perfumery adjuvant.

14- A consumer product comprising:

- a personal care active base, and
- microcapsules as defined in claims 1-9 or the perfuming composition as defined in claim 13,

wherein the consumer product is in the form of a personal care composition.

15- A consumer product comprising:

- a home care or a fabric care active base, and
- microcapsules as defined in claims 1-9 or the perfuming composition as defined in claim 13,

wherein the consumer product is in the form of a home care or a fabric care composition.